

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 September 2004 (02.09.2004)

PCT

(10) International Publication Number
WO 2004/074468 A1

(51) International Patent Classification⁷: C12N 9/40,
15/52, C07K 16/40

(72) Inventors; and

(21) International Application Number:
PCT/EP2003/005726

(75) Inventors/Applicants (for US only): EDENS, Luppó [NL/NL]; Hoflaan 118, NL-3062 JL Rotterdam (NL). VAN DIJK, Albertus, Alard [NL/NL]; Cederdreef 32, NL-3137 PB Vlaardingen (NL). HOPPER, Sylvia [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). ILGENFRITZ, Hilmar [DE/DE]; Lochhamer Strasse 11, 82152 Martinsried (DE). KEMMNER, Wolfram [DE/DE]; Boschetsrieder Str. 97 B, 81379 München (DE). KLUGBAUER, Sabine [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). FRITZ, Andreas [DE/DE]; Lochhamer Strasse 11, 82152 Martinsried (DE). MAIER, Dieter [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). TAN, Pamela [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). SPREAFICO, Fabio [IT/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). STOCK, Alexander [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). KIMPEL, Erik [DE/DE]; Sämannstr. 100, 81249 München (DE). HEINRICH, Oliver [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). GERHARD, Beatrix [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). EHRENREICH, Armin [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). LOSKO, Sascha [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). WAGNER, Christian [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). FOLKERS, Ulrike [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE). ALBANG, Richard [DE/DE]; Lochhamer Str. 11, 82152 Martinsried (DE).

(22) International Filing Date: 28 May 2003 (28.05.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

02100583.0	30 May 2002 (30.05.2002)	EP
02100586.3	30 May 2002 (30.05.2002)	EP
02100587.1	30 May 2002 (30.05.2002)	EP
02100588.9	30 May 2002 (30.05.2002)	EP
02100589.7	30 May 2002 (30.05.2002)	EP
02100590.5	30 May 2002 (30.05.2002)	EP
02100591.3	30 May 2002 (30.05.2002)	EP
02100592.1	30 May 2002 (30.05.2002)	EP
02100593.9	30 May 2002 (30.05.2002)	EP
02100594.7	30 May 2002 (30.05.2002)	EP
02100597.0	30 May 2002 (30.05.2002)	EP
02100598.8	30 May 2002 (30.05.2002)	EP
02100600.2	30 May 2002 (30.05.2002)	EP
02100601.0	30 May 2002 (30.05.2002)	EP
02100602.8	30 May 2002 (30.05.2002)	EP
02100603.6	30 May 2002 (30.05.2002)	EP
02100604.4	30 May 2002 (30.05.2002)	EP
02100605.1	30 May 2002 (30.05.2002)	EP
02100606.9	30 May 2002 (30.05.2002)	EP
02100613.5	3 June 2002 (03.06.2002)	EP
02100621.8	3 June 2002 (03.06.2002)	EP
02100622.6	3 June 2002 (03.06.2002)	EP
02100623.4	3 June 2002 (03.06.2002)	EP
02100624.2	3 June 2002 (03.06.2002)	EP
02100625.9	3 June 2002 (03.06.2002)	EP
02100629.1	3 June 2002 (03.06.2002)	EP
02100644.0	3 June 2002 (03.06.2002)	EP
02100645.7	3 June 2002 (03.06.2002)	EP
02100730.7	20 June 2002 (20.06.2002)	EP
02102522.6	1 November 2002 (01.11.2002)	EP
02102523.4	1 November 2002 (01.11.2002)	EP

(74) Agents: MATULEWICZ, Emil, Rudolf, Antonius et al.; DSM Intellectual Property, Delft Office (600-0240), P.O. Box 1, NL-2600 MA Delft (NL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: NOVEL PECTINASES AND USES THEREOF

(57) Abstract: The invention relates to newly identified polynucleotide sequences comprising genes that encode novel pectinases isolated from *Aspergillus niger*. The invention features the full length nucleotide sequence of the novel genes, the cDNA sequences comprising the full length coding sequence of the novel pectinases as well as the amino acid sequence of the full-length functional proteins and functional equivalents thereof. The invention also relates to methods of using these enzymes in industrial processes and methods of diagnosing fungal infections. Also included in the invention are cells transformed with a polynucleotide according to the invention and cells wherein a pectinase according to the invention is genetically modified to enhance or reduce its activity and/or level of expression.



WO 2004/074468 A1